

3.34
ע1

$$q = \frac{2(1+i)}{\sqrt{2}} = \sqrt{2}(1+i) = \sqrt{2} \cdot \sqrt{2} \operatorname{cis} 45 = 2 \operatorname{cis} 45$$

$$A = \frac{\sqrt{2}(q^9 - 1)}{q - 1} \rightarrow \frac{A}{\sqrt{2}} = \frac{q^9 - 1}{2 - 1} = \frac{1 - q^9}{1 - q}$$

$$q^* = \frac{1}{\frac{2(1+i)}{\sqrt{2}}} = \frac{1}{\sqrt{2}(1+i)} = \frac{1-i}{\sqrt{2}(1+i)} = \frac{\sqrt{2} \operatorname{cis}(-45)}{2\sqrt{2}} \quad \begin{array}{l} \text{אלגוריתם המשותף} \\ (* - 1 \cdot q/1+i) \end{array}$$

$$q^* = \frac{1}{2} \operatorname{cis}(-45) = \frac{1}{q}$$

$$\frac{\frac{1}{\sqrt{2}} \left(\left(\frac{1}{2} \operatorname{cis}(-45) \right)^9 - 1 \right)}{\frac{1}{2} - 1} = \frac{\frac{1}{\sqrt{2}} \left(\frac{1}{q^9} - 1 \right)}{\frac{1}{2} - 1} =$$

אלגוריתם המשותף

$$\frac{\frac{1}{\sqrt{2}} \left(\frac{1 - q^9}{q^9} \right)}{\frac{1 - q}{2}} = \frac{q(1 - q^9)}{\sqrt{2} q^9 (1 - q)} = \frac{q}{\sqrt{2} q^9} \cdot \frac{A}{\sqrt{2}} = \frac{A q}{2 q^9} =$$

$$\frac{A}{2(2 \operatorname{cis} 45)^9} = \frac{A}{2 \cdot 256 \operatorname{cis} 360} = \frac{A}{2 \cdot 256} = 2^{-9} \cdot A$$